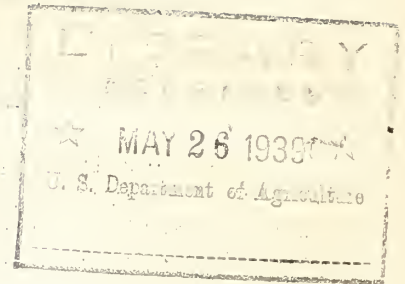


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UNIVERSITY OF NEBRASKA
Land Grant College Series
National Farm and Home Hour Program
11:30 to 12:15 P.M., CST
Wednesday, April 19, 1939



NBC ANNOUNCER: The National Farm and Home Hour.

Band and Choir: "THERE IS NO PLACE LIKE NEBRASKA."

NBC ANNOUNCER:

Today ladies and gentlemen we bring you the Farm and Home Hour from the University of Nebraska. This is another in the series of land-grant college programs.

MUSIC: UP TO FULL.

NBC ANNOUNCER:

We are speaking to you today from historic Grant Memorial Hall on the University of Nebraska campus at Lincoln. And, here is Ted Diers, radio director for the University of Nebraska, who will act as master of ceremonies. Mr. Diers.

DIERS:

Thank you, Ray Olson, and greetings Farm and Home friends throughout the nation. We are happy for the opportunity to show how land-grant colleges throughout the country are serving their respective states in the conservation and utilization of their resources. But first, let's hear from the University Band, directed by Don Lentz, as it plays, "March and Scherzo" by Prokofieff.

MUSIC: "March and Scherzo" (2 minutes)

DIERS:

And now, let's meet our host--Chancellor C. S. Boucher of the University of Nebraska. Chancellor Boucher.

BOUCHER:

Thank you, Ted Diers, and greetings friends from the University of Nebraska. We are proud today to take part in this series of land-grant college broadcasts on the National Farm and Home Hour. In keeping with the theme of the program, we believe our institution has and is making valuable contributions to the conservation of resources--both human and material.

Nebraska is a state of great variation. It is a state in which agriculture is greatly diversified. It varies widely in topography and types of farming. The altitude of Nebraska ranges from 825 feet in the southeast to 5,340 feet at the highest point on the western border some 450 miles away; the mean annual rainfall decreases from 34 inches in the southeast to 15 inches in the northwest. We have three climatic belts--humid, sub-humid and semi-arid; 14 topographic regions; 12 ground water regions and 5 distinct soil areas.

Necessarily then, conservation and utilization of our resources in Nebraska is of prime importance. Agriculture is our basic industry and contributes about 72 percent of the income of the state annually.

Today, more than ever before, we are attempting to help people conserve these resources and utilize them properly. This means not only material resources such as land and water, but also human resources which have been severely tried in recent years, due to unfavorable economic and climatic conditions.

Our experiment stations, located at strategic points over the state, are also devoting much attention to conservation of resources and to the shifts in farming operations to meet ever-changing conditions. The Nebraska Experiment Station at Lincoln has contributed many findings of national importance to the agricultural industry.

One of the foremost early corn breeders in the United States is a member of our staff. The first experimental turkey data ever published came from the Nebraska station. It was the University of Nebraska, too, which pioneered the way in showing farmers the need for changing from large animals to small, baby beef type animals. An agricultural chemist of our station staff is a national leader in studies concerning the baking qualities of wheat. Here is located also the only tractor testing station in the United States. Our station, in cooperation with the U. S. Department of Agriculture, is heading up the nation's studies on alfalfa varieties. These things, and many more, have a direct relationship to the conservation and utilization of our resources and are making contributions to them.

Our Extension Service is paying equal attention to the rapidly changing farming conditions and to the important duty of conserving material and human resources. Farm women are banded together 27,000 strong in project clubs where they are studying their own important business of homemaking. In our 4-H club work with 23,000 boys and girls enrolled, conservation and utilization of resources is fundamental.

The University of Nebraska is an old institution--established many years ago. It has served its state well in the past and will continue to do so in the future.

DIERS:

Thank you, Chancellor Boucher. And now for a little drama, we take you back many years to the beginning of the University of Nebraska.

MUSIC: (Fan fare)

DIERS:

February 15, 1869!

VOICE: ()

"Today the Nebraska legislature passed definite legislation for the establishment of a University." Nebraska has a population of about 100,000. Lincoln is a city of less than 5,000 persons.

DIERS:

In an act of the legislature, approved January 4, 1867, authorizing the selection of 640 acres for the site of the capitol city of Lincoln, there was this provision:

VOICE: ()

"The State University and State Agricultural College shall be united as one educational institution and shall be located upon a reservation selected by said commissioners in said 'Lincoln'-----

DIERS:

The University of Nebraska opens. Five faculty members; twenty college students, 12 others. The agricultural college will be organized at the earliest practicable time to meet the requirements of the law and the needs of the University.

MUSIC: Fan fare.

DIERS:

June 25, 1872!

VOICE: ()

"The Agricultural College is established by the board of regents and ordered to be opened-----

DIERS:

But let's listen in upon a scene on the University campus.

VOICE: ()

Ha! Ha! Ha! "Imagine studying farming out of a book!"

VOICE: ()

"Yeah! Book farmers."

VOICE: ()

"Don't you think you ought to learn how to milk a cow, Bill?"

VOICE: ()

"Cow College!"

VOICE: ()

Ha! Ha! "Imagine learning how to grow crops in a class room." Ha! Ha!

DIERS: (Drop Voice)

No students in the Agricultural College! The fact that students were uninterested led to much discussion as to the future of the College of Agriculture. Many years later students came--but after agricultural sciences had developed. Some experimental work was started in 1873. S. R. Thompson, first professor of agriculture in his report for that year said-----

VOICE: ()

"During the spring and summer I have taken it upon myself to secure a thorough and extensive trial of the capabilities of our state for the production of beets suitable for the manufacture of sugar. With this end in view---

DIERS:

Such experimental work, however, was slow to develop. There was but little money and few facilities available. In that same report, Professor Thompson foresaw the need for Agricultural Extension work.

VOICE: ()

"We should not solely seek to discover new agricultural truth and to fit young men for illustrating its value in the community but we should make a special effort to disseminate agricultural knowledge through the community. There seems to be no good reason why the teaching of our professors should be confined entirely to the class room. The great public who supports the University are certainly entitled to receive a share of the instruction the University may have to impart--

DIERS:

And there was the forecast of Extension work as we know it today. In the meantime, Farmers' Institutes were established. Lectures were given by the Chancellor and professors of the University and by successful farmers.

MUSIC: FanFare!

DIERS:

The year 1884! The University has a strong...but small staff of scientists. There are 500 students. Dr. Bessey has come to the University of Nebraska as a professor of botany and dean of the industrial college, which replaced the Agricultural College in name. There is a demand for investigation in agricultural problems.

VOICE: ()

But who was Bessey?

DIERS:

Charles E. Bessey was a leader among agricultural scientists. He was one of the earliest students of disease of plants. His was a pioneering mind. He was influential in the passage of the Hatch Act--the act of Congress making possible the establishment of experimental work at land-grant colleges. And, now let's look in upon a meeting of the University Board of Regents in the office of the Chancellor. The Board of Regents, the Chancellor and several professors are present. The Chancellor speaks---

CHANCELLOR: ()

Dr. Bessey you have been giving much thought to agriculture. Have you some statements to make to the Board relative to research studies which should be made?

BESSEY: ()

Mr. Chancellor and gentlemen! Observations and studies I have made, together with what records we have, convince me that soil and climate are fundamentally important in Nebraska's agricultural development. Or, we may say, soil and rainfall. Rainfall must be conserved in order to utilize the resources of our soil. We must adjust our practices in harmony with natural forces. Studies of climate must be continued at all hazards.

DIERS:

And, thus the ground work for experimentation was laid and also the need for conservation of our resources and their proper utilization. But now let's listen to Duane Harmon, trumpet soloist with the University of Nebraska band, as he plays, "Napoli."

MUSIC: Band and Duane Harmon "Napoli" (3 minutes)

DIERS:

It was the Hatch Act of 1887 that officially started experimental work. Lawmakers of Nebraska accepted its provisions immediately and established an experiment station at the University of Nebraska. In the early nineties, the Cornhusker state suffered a severe drouth. In 1896, G. D. Sweezy of the Experiment Station made the first report of studies of Nebraska weather. He said-----

SWEEZY:

"We have just gone through a period of drouth but let us look at the records. The period from 1859 to 1862 was a similar period of drouth here in Nebraska. The rainfall of all these years was below normal.

We must fact the fact that we are subject to periods of drouth."

DIERS:

Storing of moisture then--as now--was an important problem.

VOICE: ()

But have Nebraska people learned how to store moisture in the soil. Who knows what can be done to make it stay where plants can reach it? Can the farmer by his own efforts increase the storage of moisture in the soil?

DIERS:

Yes. In 1904 the substation was opened at North Platte for studies of soil moisture. Two years later W. W. Burr, now Dean of the College of Agriculture, was sent by the U. S. Department of Agriculture to the North Platte station to cooperate in studies in dry land farming with special emphasis on the storage and use of soil moisture. A few years later we find him talking with W. P. Snyder, superintendent of the station.

BURR:

Do you know Snyder, I've come to two or three pretty definite conclusions during these years we've been making these soil moisture studies. First, I believe that a third or more of the rain and snow of any one year can be stored under a clean fallow for use of the crops the following year.

SNYDER: ()

Burr, I'm sure you've found something there. Often times it's just that small reserve moisture which makes the difference between a crop and a failure. What's your second point?

BURR:

Well, it's closely related; that is, this stored moisture will stay put below the first few inches. The problem in fallow is to get the moisture down there and to keep weeds from taking it out before next year's crop comes along.

SNYDER: ()

But what we would all like to know is what the fundamental principle of moisture storage and movement in the soil is; then, we could apply it almost anywhere.

BURR:

Well, from our studies, I think the most important things are: Keeping the weeds down and keeping the surface in such a condition that moisture can get in readily and not run off. I believe the surface should be fairly rough and not smooth (fading)-----

DIERS:

And, so the early studies of the University of Nebraska contributed much to conservation knowledge. But I see Mr. Temple, director of the University singers is ready for a number. It's "Power of Music."

MUSIC: Choir sings, "Power of Music." (3 minutes)

DIERS:

Much has been learned since those early days and no one today has a better knowledge of Nebraska's soil and water resources than Dr. G. E. Condra, director of the Conservation and Survey Division of the University. Ray Olson looks like he has a lot of questions he'd like to ask Dr. Condra.

NBC ANNOUNCER:

You bet I have, Ted. Dr. Condra, I've heard a lot about Nebraska's soil surveys, its sandhill regions, the high plains, the cattle feeding section, irrigation, the sugar beet area, and the corn section. They tell me that conservation is a real pet of yours.

CONDRA:

Yes, Mr. Olson. I've been interested in conservation for many years----and have seen it grow from mere theories into real action. We used to talk about how we might save water and soil, but today we are actually conserving these fundamental resources.

NBC ANNOUNCER:

And I suppose the rainfall, topography and altitude have their influence on agriculture in the state.

CONDRA:

Indeed they do---especially rainfall.

NBC ANNOUNCER:

I get the impression that Nebraska is a rather dry state---and yet I've heard that it has more miles of rivers and streams than any other state. Is this true?

CONDRA:

Not quite true, Mr. Olson. Texas---a much larger state---has more miles of streams than Nebraska.

NBC ANNOUNCER:

It seems rather strange to me that a state which has so many streams would be in a climate where rainfall is rather scarce---and have so much land that is not farmed---such as the sandhills. I've never seen your sandhills, but I've heard a great deal about them.

CONDRA:

The sandhills, not as valuable on a per acre basis as the farming country in the eastern section of the state, are a great asset to Nebraska---especially to farming areas in the eastern part. They act, you see, as a sponge absorbing most of the rainfall of the area. They serve as a great reservoir from which issue live streams which , supply vast quantities of water for irrigation and water power development.

NBC ANNOUNCER:

Do the sandhills produce crops of any kind?

CONDRA:

The principal crop there is grass which helps to produce more than a million head of cattle which Nebraska turns out every year. Most of these animals are finally fattened on corn, alfalfa and other feeds, not only in Nebraska but throughout the cornbelt. That's where people in Chicago, New York and other great eastern cities get their good steaks from, Mr. Olson.

NBC ANNOUNCER:

But they get their start on grass in the sandhills?

CONDRA:

Many of them do. Since you're interested in that area, here's Dr. Keim, chairman of the agronomy department.

NBC ANNOUNCER:

Now, Dr. Keim, about this grass in the sandhills---is it being conserved?

KEIM:

Yes. The grass cover on these sand hills---comprising about 25% of the total area of Nebraska---is called the best preserved range in the United States. The sub-irrigated meadows where the roots of forage plants reach the water table below, furnish excellent hay to feed the cattle during periods when grazing is not available.

NBC ANNOUNCER:

And, for how long a period does a rancher feed his cattle?

KEIM:

That, Mr. Olson, is where the rancher has it all over the typical cornbelt farmer. He figures on pasturing winter and summer---nine months a year and feeding hay about three months.

NBC ANNOUNCER:

But I wouldn't think the cattle would do very well on dry grass---

KEIM:

Right, but here is another place where the University of Nebraska has helped in the conservation and utilization of this resource. The Valentine sub-station in the sandhills has found that by feeding a small amount of cottonseed cake each day during the winter months, the cattle come through in much better shape than without it.

NBC ANNOUNCER:

Now, Dr. Keim, since the sandhill area does not produce grain, how do these cattle get to consumers?

KEIM:

Well, despite the fact that more than 50% of Nebraska is in grass, we are also one of the leading corn producing states. You see many of these cattle out of the sandhills move into the irrigated sections or into eastern Nebraska where they are finished on corn, alfalfa and silage.

NBC ANNOUNCER:

Tell us a little more about this country where these cattle are finished.

KEIM:

We have in northeastern Nebraska some of the finest farming country in the world. This area, known as the loess hills, has practically unlimited soil resources. It needs no commercial fertilizer.

NBC ANNOUNCER:

But what about the rest of the farming land in Nebraska?

KEIM:

In general it is very productive. Of course, except for the eastern one-third moisture is a limiting factor in crop production. But everywhere our soils are rich and as we get into the drier areas, other crops such as sorghums and barley are produced in abundance to fatten not only cattle from the grass sections but also other types of livestock.

NBC ANNOUNCER:

Thank you, Dr. Keim. Now Dr. Condra, let's resume our little discussion about water---which is certainly an importance resource.

Does the average farmer or the average city or town family have difficulty in locating wells so they will tap good water supplies?

CONDRA:

The supply of ground water is one of the things that our division of the University of Nebraska has studied. We've cooperated with the United States Geological Survey in this study. We have more than 500 stations over the state which measure the water table, keep records of temperature of the water, the quality of water and learn whether or not the supply of water is dependable at each point. With this information, we are in a position to help cities and towns as well as farmers in locating water supplies.

NBC ANNOUNCER:

I should think these services would be very useful to the people of Nebraska.

CONDRA:

Yes--and they're using them, too! Especially the state, county and community land-use committees.

NBC ANNOUNCER:

We pause to remind you that this is the National Farm and Home Hour coming to you from the University of Nebraska at Lincoln.

20 second pause

NBC ANNOUNCER:

Here we are back on the campus of the University of Nebraska to resume the National Farm and Home Hour. We hear the University band as it plays, "Amporito Roco," by Texidor.

MUSIC:

Band plays "Amporito Roco." (2 minutes)

NBC ANNOUNCER:

And, now Ted Diers.

DIERS:

As Dr. Condra has said, Nebraska is helping the farmer with its water supply problems. Now let's go to the Arbuckle farm near Kearney in the Platte river valley about 140 miles west of Lincoln. The date: October 28, 1937. The event: The state cornhusking contest with 25,000 onlookers. A principal attraction is a demonstration on pump irrigation. Luther Burt, a neighbor, is talking with Ivan Wood, extension engineer from the agricultural college, and some visitors from eastern Nebraska.

BURT: ()

Would you ever believe that so much water would come out of a well if you hadn't seen it with your own eyes? How much is in that stream, Mr. Wood?

WOOD:

About 1200 gallons a minute. That's enough to cover 12 acres of land with 2 inches of water in a 10-hour day.

BURT: ()

I was just telling these fellows that there are over 500 irrigation wells right here in Buffalo county. Is that right?

WOOD:

That's right, Mr. Burt---but more than three times that many in Nebraska.

ALLEN:

Pardon me, but I'm from eastern Nebraska---where does all this water come from? I thought this was a dry country.

WOOD:

It's dry on the surface--but underground there's a layer of gravel about 25 feet thick that's loaded with water. It's irrigating more than 80 thousand acres of fertile land now.

BURT: ()

But how did anybody find out about this water supply in the first place?

WOOD:

Dr. Condra here is the man who's mainly responsible for discovering it. His men have put down thousands of test wells--and they've made maps showing just where these layers of gravel are found, how thick they are, and how much water they contain. And from that--they know how many wells can be used without ruining the water supply.

DIERS:

Now, it is April 28, 1938! We're on the Henry Peterson farm in Phelps county. Again an irrigation demonstration sponsored by the college of agriculture is in progress. An old-time dry land farmer expresses his views -----

OLD TIMER: ()

Never thought I'd live to see the day when the Platte river would be running over these farms. Don't see yet how they get it up on top of that hill. With all these dry years coming along, it's going to be mighty welcome and may keep some of the old settlers here that otherwise would have to get out -----

VOICE: ()

An engineer from the agricultural college is talking over the public address system:

WOOD:

Today for the first time the waters of the Platte River are being placed upon the high and dry plains of Phelps county--one of the four irrigation projects made possible by the Public Works Administration. In all, these four projects will furnish water to nearly 400,000 acres of land. In this project covering Phelps and Kearney counties, 220,000 acres are involved.

Probably the one thing more than anything else which made this project possible was the work done by W. W. Burr, now dean of the agricultural college, and J. C. Russell. Back in 1922, these men made exhaustive examinations of the soil and studied climatic conditions. They prepared a report that showed conclusively that irrigation in this section would in all probability be a profitable venture.

Today more than 3,000 people have viewed this demonstration which is intended to show how water may be applied to this soil. Irrigation will bring about many changes in the farming methods and this is just the first of many demonstrations and training meetings which will be held under the auspices of the agricultural college and your county agricultural agent. I will -----

DIERS:

And so by pump and gravity irrigation, Nebraska now irrigates some _____ acres. Thus, the University of Nebraska as a land-grant college helps farm people utilize to a fuller degree its major resources--soil and water!

But before we find out how much moisture it takes to grow crops, let's listen to the University singers as they sing, "Sinner, Please Don't Let This Harvest Pass."

CHOIR: "Sinner, Please Don't Let This Harvest Pass." (2 minutes)

DIERS:

A moment ago, we talked about soil and water--Nebraska's two big resources. But now let's find out how some of our crops use this water. Dr. T. A. Kiesselbach, extensively known throughout the country for work in determination of water requirements, has this to say:

KIESELBACH: (FROLIK)

Mr. Diers, we have found that among standard crops, corn and sorghums get along with the least water. But there are also some differences in kinds of corn. A type that is rather small will use less water and resist drouth better than corn that grows extremely large. When we learned this, we began to develop hybrid corn that is rather small--but still produces fairly large ears. Today, most of the corn grown in Nebraska is short--has narrow leaves and matures early.

The corn acreage in Nebraska is more than double that of any other crop--but in late years the sorghum acreage has been increasing. Our Experiment Stations have developed varieties which resist drouth effectively and the Extension Service has demonstrated this to farmers. Last year, you know, Nebraska had the greatest percentage of increase in sorghum acreage of any state in the Union.

DIERS:

What about alfalfa and its use of water?

KIESELBACH: (FROLIK)

Alfalfa is not economical in its use of water but because of its deep penetrating root system it is able to draw on the reserve moisture supply to a depth of 30 or more feet under Nebraska conditions. This deep moisture supply is untapped by ordinary crops.

DIERS:

Now I see Ray Olson is anxious to ask Director W. H. Brokaw of the Extension Service some questions about how all this information is put to practical use

NBC ANNOUNCER:

You bet I have some questions to ask you, Director Brokaw. We have shown just a few of the things about experimental and research work relating to the conservation of resources and their utilization. Too, we've touched on how the Extension Service takes this information out to farm people.

BROKAW:

Yes, Mr. Olson (NBC Announcer), you've done a good job of it--and the Extension Service now is succeeding in getting farm and city people to see this entire conservation picture.

NBC ANNOUNCER:

How's that?

BROKAW:

Well, specifically I mean our land-use program and related educational activities carried on by farmers who are developing the plans and the program itself---taking into consideration just the things that Dr. Condra, Dr. Keim and others have mentioned.

NBC ANNOUNCER:

And by land-use, you meant what?

BROKAW:

First, a study of our natural resources. Finding out more about our soils, our available moisture and our chances of producing crops.

Second--the conservation of these resources for the future. And, that can be brought about by rotation of crops, by preventing wind and water erosion, by resting land, by returning some crop land to grass and by planting trees.

I think we can best illustrate this by taking a look in on a typical county land-use committee meeting. Mr. Jones, a farmer member is speaking--

JONES: ()

Here we're considering a 160-acre farm in Lincoln precinct--the land is eroded, buildings are run down and the family does not have enough income to maintain a decent standard of living. What's the trouble? Is the unit too small?

VOICE: ()

Not altogether--look at his neighbor--living with livestock on 160 acres--diversification is a part of his problem.

JONES: ()

But can't a man raise only wheat as this man is doing?

VOICE: ()

Yes---here's Bill Smith farming a section of land depending largely on wheat for his income--but he summer fallows and he can afford to miss a crop now and then.

JONES: ()

Well then, it isn't only one use of the land that is successful here. There are several farming set-ups which will work and others which will not.

BROKAW:

These, Mr. Olson, are only a few of the things discussed. These committees get down to bed rock and consider tenancy, farm finance, school problems, taxation, community organization, and many other similar things.

NBC ANNOUNCER:

Now, Director Brokaw, is this work correlated within the state?

BROKAW:

Yes. You see, we have a state agricultural council composed of several leading farmers, representatives of all federal agencies and staff members of the land-grant college. Their job is to coordinate the recommendations of these county land-use groups with the action of federal agencies on a state and national basis.

NBC ANNOUNCER:

But did all this start just recently?

BROKAW:

Oh, no.....the Extension Service has been doing this same thing for many years. But there is another side of this picture.....and I mean by that the farm family.

DIERS:

Thank you Ray Olson and Director Brokaw. And, now let's hear from the University band as they play the "March of The Steel Men."

MUSIC: BAND PLAYS, "MARCH OF STEEL MEN" (2 minutes)

DIERS:

Standing beside me now is Miss Mary-Ellen Brown, in charge of women's extension work in Nebraska. Miss Brown, do you feel that conservation of human resources--such as Director Brokaw just mentioned--has a part in the general theme of our broadcast.

MISS BROWN:

Most certainly I do, Mr. Diers. Farm women play an important part in the economic scheme of our agricultural industry and the success of many of the conservation practices described here today depend much upon the women. Hence, the farm family must be considered.

DIERS:

And in what manner?

MISS BROWN:

We approach this problem through homemakers' project clubs. In 90 counties we have over 27,000 women studying in these groups. They study their resources and the problems of their own homes in order to better their family life. You know, Mr. Diers, improvements are taking place in homemaking as well as in the mechanical operations of the farm. Through the years, important changes have gradually developed in the attitude and philosophy of the homemakers and in their skills.

DIERS:

That's interesting.

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MISS BROWN:

Project clubs have played a large part in dignifying the job of homemaking. Our farm women now regard homemaking as a profession.

MR. DIERS:

But what about the health of the family?

MISS BROWN:

We can't overlook it, for health is one of our great resources. Farm women are studying the necessities of their families. They are providing balanced meals for their sons, daughters and husbands. They are appreciating the contribution of beauty in the home as a factor in desirable family life. Recreation is building toward better farm families. In their club work, these women are learning how to hold family together through wholesome entertainment and recreation. Reading also helps to build happy families.

DIERS:

Are you doing anything about it?

MISS BROWN:

Yes, indeed, we are, through our new reading project. Farm women as a result are "growing"--that is, their interests are increasing. Last year in our 24 home demonstration agent counties, for example, over 19,000 different books were reported as read.

DIERS:

Miss Brown, what type of books do farm women read?

MISS BROWN:

Well, it seems they like fiction best of all. But it's interesting to note that they read children's books and enjoy them.....they are also interested in books on child care and development, travel and biography.

DIERS:

In all this work.....study, recreation, reading and the like.....do you feel that the family resources are being conserved and properly utilized?

MISS BROWN:

Yes I do. It is the aim of the home economics people at the agricultural college to develop lesson material that will emphasize the importance of conservation of human resources and contribute to satisfactory family life.

DIERS:

Soil!.....Water!.....Crops!.....Farm Families!.....all a part of Nebraska's resources. With them the Cornhusker state moves forward. Now, as we bid you goodbye the band plays, "My Nebraska."

MUSIC: Band, "My Nebraska."

NBC ANNOUNCER:

And that brings us to the end of the line today. This is Ray Olson speaking from the campus of the University of Nebraska. This program has come to you through the National Broadcasting Company.